Health Care for the Homeless

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Bibliography #14

Nutrition Among Homeless People

November 2001

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2001

Kelly E. **Assessment of dietary intake of preschool children living in a homeless shelter.** Appl Nurs Res, 14(3): 146-54, Aug 2001.

Families with young children are the fastest-growing group among the homeless population. This study was undertaken by nursing students and faculty to learn more about what homeless preschool children were fed and what they are at a family shelter in the Southwest. Results from the study were shared with the entire shelter staff. Mothers who participated in the study were given information on age-appropriate food preparation and servings. This research reveals that important role nurses can play in documenting and teaching both shelter staff and homeless mothers more about children's dietary needs and the long-term health outcomes of a proper diet. Copyright 2001 by W.B. Saunders Company.

Kertesz SG. **Pellagra in 2 homeless men.** Mayo clin Proc, 76(3):315-8, March 2001.

Pellagra is a nutritional disease with cutaneous, gastrointestinal, and neuropsychiatric manifestations. Because of the diversity of pellagra's sighs and symptoms, diagnosis is difficult without an appropriate index of suspicion. Untreated, pellagra is fatal. Two cases of pellagra in contemporary homeless people are described. Complete evaluation supported a clinical diagnosis of pellagra after exclusion of other possibilities. Sighs and symptoms resolved an institution of niacin therapy and change in diet. Appropriate suspicion for a diagnosis of pellagra requires attention to a combination of socioeconomic and behavioral risk factors for nutritional deficiency. The combination of homelessness, alcohol abuse, and failure to eat regularly – particularly, failure to make use of shelter-based meal programs – may identify people at special risk in contemporary settings.

1998

Cutts DB, Pheley AM, Geppert JS, **Hunger in midwestern inner-city young children.** Arch Pediatr Adolesc Med, 152(5):489-93, May 1998. Comment in: Arch Pediatr Adolesc Med, 152(5):423-4, May 1998.

OBJECTIVE: To determine the characteristics of hunger in young children who attend ambulatory pediatric clinics in a midwestern city. DESIGN: Consecutive sample. SETTING: Ambulatory pediatric clinics of an inner-city teaching hospital. PARTICIPANTS: English-speaking caregivers of 2578 children younger than 5 years. MAIN OUTCOME MEASURE: Structured survey measures of hunger, family characteristics, assistance program use, child feeding practices, and anthropometrics. RESULTS: In this population, 171 (6.6%) were hungry, and 842 (32.7%) were at risk for hunger. Hunger status was associated with increased age, decreased maternal education level, maternal nonwhite race, a history of homelessness, and parental unemployment. Hunger status was associated with use of Aid to Families with Dependent Children and food stamps but not with participation in The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Results of anthropometrics indicated that mean growth percentiles were no different between hunger categories. CONCLUSIONS: Housing, dietary, and family characteristics are identifiable risk factors for early childhood hunger. Hunger cannot be identified, however, using anthropometrics. It is disconcerting

that fewer hungry children and children at risk for hunger participate in WIC compared with other programs. These data suggest the potential for more aggressive identification and intervention at the primary care and social service levels to benefit hungry children

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Kelly E. **Nutrition among homeless children.** Public Health Reports 113: 287, 1998.

This letter discusses a study of 75 preschool children living with their mothers, conducted in a homeless shelter in Houston, TX. The focus was on assessing the food services provided by the shelter to children. While the shelter served three meals each day, food was not provided outside of mealtimes and therefore the nutritional needs of preschool children were unmet. The author notes that relatively inexpensive interventions can have large payoffs in meeting the nutritional needs of this important population.

Murphy JM; Wehler CA; Pagano ME; Little M; Kleinman RE; Jellinek MS. **Relationship between hunger and psychosocial functioning in low-income American children**. J Am Acad Child Adolesc Psychiatry, 37(2):163-70, February 1998.

OBJECTIVE: Using large-scale surveys from nine states, the Community Childhood Hunger Identification Project (CCHIP) estimates that 8% of American children under the age of 12 years experience hunger each year. CCHIP operationalizes child hunger as multiple experiences of parent-reported food insufficiency due to constrained resources. The current study examined the relationship between food insufficiency and school-age, low-income children's psychosocial functioning. The study also assessed the interinformant (parent versus child) reliability and time-to-time reliability of the CCHIP measure. METHOD: Two hundred four school-age children and their parents from four inner-city public schools were interviewed using parent, teacher, and clinician report measures of psychosocial functioning. Ninety-six children and their parents were reinterviewed four months later. RESULTS: Hungry and at-risk for hunger children were twice as likely as not-hungry children to be classified as having impaired functioning by parent and child report. Teachers reported higher levels of hyperactivity, absenteeism, and tardiness among hungry/at-risk children than not-hungry children. Parent and child reports of hunger significantly related to each other, and time-to-time reliability of the CCHIP measure was acceptable. CONCLUSIONS: Results of this study suggest that intermittent experiences of food insufficiency and hunger as measured by CCHIP are associated with poor behavioral and academic functioning in low-income children. The current study also supports the validity and reliability of the CCHIP measure for assessing hunger in children.

Nelson K; Brown ME; Lurie N. **Hunger in an adult patient population**. JAMA,;279(15):1211-4, April 15, 1998.

CONTEXT: Although clinical observations suggest that some patients experience hunger and food insecurity, there are limited data on the prevalence of hunger in adult patients. OBJECTIVE: To determine the prevalence of hunger and food insecurity in adult patients at an urban county hospital. DESIGN: Cross-sectional survey conducted in 1997. PATIENTS: The primary survey included all patients aged 18 years or older who were admitted to the medicine surgery, and neurology services during a 2-week period, and all patients who attended the hospital's general medicine clinic during 1 week. A second survey included primary care patients who received insulin from the hospital pharmacy during a 1-month period. OUTCOME MEASURES: Rates of hunger and food insecurity. RESULTS: Of 709 eligible patients, 567 (participation rate, 80%) were interviewed in either the clinic (n=281) or hospital (n=286). An additional 170 patients who received insulin were interviewed by telephone (response rate, 75%). Of the primary sample, 68 (12%) respondents reported not having enough food, 75 (13%) reported not eating for an entire day, and 77 (14%)

reported going hungry but not eating because they could not afford food. A total of 222 (40%) had received food stamps in the previous year and of those, 113 (50%)had their food stamps reduced or eliminated. Recipients whose food stamps had been eliminated or reduced were more likely to report not having enough food (18% vs 13%), not eating for a whole day (20% vs 16%), going hungry but not eating (20% vs 16%), and cutting down on the size of meals or skipping meals (33% vs 27%). In multivariate analysis, independent predictors of hunger included an annual income of less than $10000, drug use , and a reduction in food stamp benefits . Predictors of food insecurity included an annual income of less than $10000, drug use, and a reduction in food stamps. In addition, 103 (61%) patients in the sample of diabetics reported hypoglycemic reactions; 32 (31%) of these were attributed to inability to afford food. CONCLUSION: Hunger and food insecurity are common among patients seeking care at an urban county hospital.

Silliman K; Yamanoha MM; Morrissey AE. **Evidence of nutritional risk in a population of homeless adults in rural northern California.** J Am Diet Assoc, 98(8):908-10, August 1998.

1997

Lewit EM; Kerrebrock N. **Population-based growth stunting** Future Child, 7(2):149-56, Summer-Fall, 1997.

Growth stunting, defined as height for age below the fifth percentile on a reference growth curve, is traditionally used as an indicator of nutritional status in children. Growth stunting is a population-based indicator and can indicate the prevalence of malnutrition or nutrition-related disorders among a population of children. Among certain segments of the U.S. child population, most notably poor children, growth stunting occurs more often than expected, suggesting that inadequate nutrition may be a not recent enough to allow for an assessment of the impact of several major public programs designed to address the risk of inadequate nutrition among children. Analysis of data from these programs does show, however, a higher than expected, but declining, level of stunting among program participants. The serious consequences of growth stunting and malnutrition - particularly impaired cognitive development - suggest that careful consideration of the growth stunting indicator should remain an important part of policy discussions on public nutrition programs.

Rose D; Oliveira V. **Nutrient intakes of individuals from food-insuffucuent households in the United States.** Am J Public Health

OBJECTIVES: Understanding the nutritional consequences of food insufficiency is important for informed policy-making that addresses the problem of domestic hunger. This study estimated the extent to which individuals from food-insufficient households were likely to have low intakes of energy and 14 other nutrients. METHODS: The diets of preschoolers, adult women, and the elderly were analyzed with 24-hour recall data from the 1989 through 1991 Continuing Survey of Food Intake by Individuals. Logistic regression analysis was used to study the association of self-reported household food insufficiency with nutrient intakes below 50% of the recommended daily allowance. RESULTS: For adult women, food insufficiency was significantly associated with low intakes of eight nutrients, including energy, magnesium, and vitamins A, E,

C, and B6. Elderly individuals in the food-insufficient group were also more likely to have low intakes of eight nutrients, including protein, calcium, and vitamins A and B6. Household food insufficiency was not significantly associated with low intakes among preschoolers. CONCLUSIONS: The results validate the use of self-reported hunger measures in nutritional surveillance and highlight nutrients of concern for food assistance and nutrition education efforts targeted at individuals from food-insufficient households.

Sherry B; Bister D; Yip R **Continuation of decline in prevalence of anemia in low-income children: the Vermont experience**. Arch Pediatr Adolesc Med, 151(9):928-30, September 1997.

OBJECTIVE: To examine whether the prevalence of childhood anemia in white low-income children has continued to decline into the 1990s. DESIGN: An examination of 14 years of hematocrit data from the Centers for Disease Control and Prevention's Pediatric Nutrition Surveillance System in Vermont from 1981 through 1994. SETTING: Public health clinics for the Special Supplemental Nutrition Program for Women, Infants, and Children in Vermont. The same screening method and criteria for identifying and defining anemia and the same quality-assurance procedures were used during the 14 years. The program eligibility criteria were also consistent except for part of 1991 and 1992. MAIN OUTCOME MEASURE: The annual prevalence of anemia. RESULTS: Between 1981 and 1994, the prevalenceof anemia halved (from 7.9% to 3.6%. For children aged 6 to 24 months, this decline was from 7.8% to 4.6%; for children aged 2 to 5 years, the decline was from 7.9% to 3.1%. CONCLUSION: The decline in the prevalence of anemia among low-income children observed by the Centers for Disease Control and Prevention's Pediatric Nutrition Surveillance System up to the mid-1980s has continued into the 1990s in Vermont. This finding indicates that iron nutrition in infancy and early childhood is still improving.

Spannaus-Martin DJ; Cook LR; Tanumihardjo SA; Duitsman PK; Olson JA. **Vitamin A and vitamin E statuses of preschool children of socioeconomically disadvantaged families living in the midwestern United States**. Eur J Clin Nutr, 51(12):864-9, December 1997.

OBJECTIVE: To determine the vitamins A and E statuses of socioeconomically disadvantaged preschool American children. DESIGN: Cross-sectional study of preschool children from socioeconomically disadvantaged families. SETTING: Central Iowa, USA. SUBJECTS: A group of 77 apparently healthy children was studied with the following characteristics: 5 mo-6 y; 37 males, 40 females, 56 non-Hispanic Caucasians, 3 Hispanics, 18 Afro-Americans. METHODS: Modified relative dose response (MRDR) test for vitamin A status assessment; serum retinol, alpha-tocopherol, cholesterol, and carotenoids; weight for age. RESULTS: Although the mean weight for age was the 53rd percentile of the NCHS standard, a significant number of children were either markedly underweight or overweight. Ratios of 3,4-didehydroretinol to retinol(DR/R) were > 0.030, in 32% of the children. Mean serum retinol, alpha-tocopherol and cholesterol were 1.09 +/- 0.23 microM/L, 16.8 +/- 6.3 microM/L and 4.01 +/- 0.8 microM/L. Three children (3.9%) showed a serum retinol value < 0.7 microM/L. One child with a serum retinol value < 0.7 microM/L and one additional child showed a ratio of alpha-tocopherol to cholesterol < 1.44 mumol/mmol. The mean alpha-tocopherol to cholesterol ratio for the group (4.31 +/- 1.71 mumol/mmol), however, was satisfactory. The only significant age-related changes were an alpha-tocopherol to cholesterol ratio between the 0-2 y and the 2-4 y groups. Serum cholesterol and lycopene concentrations of African-Americans were significantly higher than those of whites. Median serum concentrations of alpha-carotene and beta-carotene were lower and, of lycopene higher, than those found in children in a national survey. Serum carotenoid concentrations generally increased with age. CONCLUSIONS: Larger percentages of underweight and overweight children and a significant degree (32%) of in adequate vitamin A status were found in this group of disadvantaged

children. African-Americans showed higher serumcholesterol and lycopene concentrations than did whites, but otherwise were nutritionally similar. Age-related changes were small. Of nutritional parameters considered, the vitamin A status of disadvantaged segments of our population clearly needs attention.

Underwood S; Pridham K; Brown L; Clark T; Frazier W; Limbo R; Schroeder M; Thoyre S. **Infant feeding practices of low-income African American women in a central city community**. J Community Health Nurs, 14(3):189-205, 1997.

Health care professionals are frequently unfamiliar with the most typical infant feeding practices of the clients within the communities they attempt to serve. This observation was apparent during the development of a program in an inner-city community of Wisconsin to support the feeding practices of low-income African American women with low-birth-weight infants. As a result of initial encounters with prospective clients and health care and social service professionals from the targeted community, it was apparent that staff involved in this project needed to gain an understanding of common infant feeding practices of low-income African American women; a greater awareness of the values, beliefs, and health care practices, and a greater understanding of the impact of poverty on families in the community. To assist the staff in gaining a better understanding of the influence of culture and economics on infant feeding practices, a study of the infant feeding practices of a select group of low-income African American women was developed. The study aimed to (1) gather information about common infant feeding practices of low-income African American women in an inner-city community of Wisconsin and (2) determine the influence of cultural and economic variables on the decisions made by low-income African American women regarding infant feeding. This article presents an analysis and summary of the data collected during the course of the study.

Willis E; Kliegman RM; Meurer JR; Perry JM. **Welfare reform and food insecurity: influence on children** [see comments]. Arch Pediatr Adolesc Med, 151(9):871-5, September 1997. COMMENT: Arch Pediatr Adolesc Med, 151(9):870 September 1997.

Winne M; Joseph H; Fisher A. **Community food security: a guide to concept, design, and implementation.** Venice, CA: Community Food Security Coalition, 1997.

Community food security is defined as "all persons in a community having access to culturally acceptable, nutritionally adequate food through local non-emergency sources at all times." This guide addresses all aspects of community food security from needs assessment and planning to collaborations, coalitions, and project implementation. Also included are chapters on finding funds, examples of community food security initiatives, and evaluation. AVAILABLE FROM: Andy Fisher, Coordinator, Community Food Security Coalition, PO Box 209, Venice, CA, 90294, (310) 822-5410, Fax: (310) 822-1440, E-mail: *asfisher@aol.com*.

1996

Austin CK; Goodman CE; Van Halderen LL. **Absence of malnutrition in a population of homeless veterans.** J Am Diet Assoc, 96(12): 1283-1285, December 1996.

Bronner YL. **Nutritional status outcomes for children: ethnic, cultural, and environmental contexts** [published erratum appears in J Am Diet Assoc, 97(6):584, June 1997]. J Am Diet Assoc, 96(9):891-903, September 1996.

This literature review explored the relationship between nutritional status outcomes among ethnically diverse children and cultural and environmental contexts. Articles form the literature on anthropometric/body composition measure diet, and physiologic outcomes among ethnically diverse children were identified through on-line literature searches and references from articles reviewed. Explanations consistent with evaluation of results from the studies and reports were developed by synthesis of the findings. Children from underserved, ethnically diverse population groups were at increased risk for obesity, increased serum lipid levels, and dietary consumption patterns that do not meet the Dietary Guidelines for Americans. More than 80% of all US children consume more than the recommended amount of total fat and saturated fat. These factors, which were noted during childhood, may track into adolescence, placing these children at increased risk for the early onset of chronic diseases such as non-insulin-dependent diabetes mellitus, cardiovascular disease, hypertension, and some forms of cancer. Although federally funded food assistance programs are changing rapidly, currently they provide foods that, when eaten as recommended, exceed the Dietary Guidelines for these children. Future interventions to improve the health and nutritional status of our nation's children, especially those from underserved, ethnically diverse groups, should be culturally appropriate and implemented at the levels of individuals, families, and communities.

Brown L; Pollitt, E. **Malnutrition, Poverty and Intellectual Development.** Scientific American: 38-43, February 1996.

Studies reveal that poor diet influences mental development in many ways, and other aspects of poverty exacerbate the effects. Good nutrition early in life can help counteract the destructive effects of poverty on intellectual development. This study suggests that when the social and economic aspects of a child's environment cannot be easily changed, providing adequate nutrition during infancy and later will at least lessen the cognitive deficits engendered by poverty. It includes a food chart for optimal nutrition in children.

Food and Nutrition Information Center, National Agricultural Library. **Food and nutrition resource guide for homeless shelters, soup kitchens, and food banks.** Beltsville, MD: U.S. Dept. of Agriculture, September 1996.

This resource guide contains food and nutrition educational materials for persons who work in homeless shelters, soup kitchens, food banks, and other facilities. It is divided into two sections: (1) educational materials for clients and (2) resources for staff and volunteers. Topics include general nutrition, pregnancy, breastfeeding, infant feeding, the young child, the elderly, menu planning and food buying, and food safety and sanitation. AVAILABLE FROM: Food and Nutrition Information Center, Nat'l. Agricultural Library, U.S. Dept. of Agriculture, 10301 Baltimore Ave., Rm 304, Beltsville, MD 20705-2351. (301) 504-5719.

Liu T; Soong SJ; Wang X; Wilson NP; Craig CB. **African American and white differences in nutritional status among low-income women attending public health clinics**. J Health Care Poor Underserved, 7(4):323-37, November 1996.

Information concerning nutritional status and factors influencing dietary intakes among underserved populations is scarce. To obtain this information, data on nutritional status in a group of 726 white and African American women of low education and low income who were inner-city dwellers were analyzed. Dietary habits in all subjects were characterized by high intakes of fat, saturated fat, cholesterol, and salt and low intakes of fiber and folate. A comparison of dietary intake patterns of low-income white and African American women showed a trend toward poorer dietary habits among the white women. It is suggested that differences between African Americans and whites in most nutrient intakes were due to factors such as low levels of education and income rather than racial background alone. Results imply that disease prevention and health promotion programs should include efforts to increase awareness and practice of healthy diet habits among all low-income women.

1995

Beal AC, Redlener I. **Enhancing perinatal outcome in homeless women: the challenge of providing comprehensive health care.** Semin Perinatol, 19(4):307-13, August 1995.

Homeless women who are pregnant present a number of challenges to health care providers. As a group, they are at risk for a variety of illnesses that could affect their pregnancies, including sexually transmitted diseases and substance abuse. Poor access to health care, inadequate prenatal care, poor nutrition, and poor housing cause these women to suffer poor birth outcomes. They are more likely to deliver low birth weight infants and have higher rates of infant mortality. It should be understood that homeless pregnant women are a heterogenous group. Generally, they are pregnant adolescents and women in homeless families. Additionally, there are differences within these two groups. The causes of homelessness for these women vary as do their needs during pregnancy. Any provider of health care to the homeless must understand the different situations of these women to deliver directed, effective care.

Gelberg L; Stein JA; Neumann CG. **Determinants of undernutrition among homeless adults.** Public Health Rep, 110(4): 448-454, July 1995.

Factors associated with undernutrition were investigated in a broad community-based sample of 457 homeless adults (344 men and 113 women) who were interviewed and examined in a variety of settings during the summer of 1985. Latent variables representing drug use, alcohol use, a stereotyped homeless appearance, mental illness, poor physical health status, and measured variables of age, sex, income, and number of free food sources were used as predictors of undernutrition. Undernutrition was indicated with three anthropometric measures (weight, triceps skinfold, and upper arm muscle area in the lowest 15th percentile) and one observational measure. Of the sample, 33% were undernourished as defined by at least one of the anthropometric measures. Undernutrition was significantly associated with more drug use, fewer free food sources, less income, and male sex. The findings identify persons at risk for undernutrition and suggest programs to alleviate their hunger, including increased funding for food stamps and other income supports, more free food sources such as shelters and souplines, and drug treatment programs.

Killion CM. **Special health care needs of homeless pregnant women.** ANS Adv Nurs Sci, 18(2):44-56, December 1995.

When pregnancy accompanies homelessness, the need for adequate shelter is not being met during one of the most critical periods of a woman's life. This article focuses on the unique health needs of homeless pregnant women. Detailed accounts of the daily life experiences of African-American, white, and Latina homeless pregnant women were derived from an ethnographic study conducted in a metropolitan area in southern California. Their pregnancies were difficult because normal physiological changes of pregnancy often became pathological, signs of potential complications went unnoticed or unattended, and minor discomforts of pregnancy were exacerbated by the women's environment. Nursing therapeutics that support health maintenance and coping strategies of the women while on the streets or in shelters were explicated.

1994

Broughton J. **Food service for the homeless: A manual for emergency shelters, drop-in centers, and transitional housing providers**. Ganado, AZ: 1994.

This is a resource for food service planning for emergency shelters, drop-in centers, and transitional housing providers. First published in 1991, it now features a new section on nutrition and education resources, including reproducible handouts and 30 recipes for large groups. It has practical information on nutrition guidelines for all ages and needs of guests, food donation, volunteer coordination, and protection from food borne illnesses. All food recommendations follow the latest USDA Food Guide pyramid. AVAILABLE FROM: Jane Broughton, MS, RD, PO Box 435, Ganado, AZ 86505, (520) 755-3712. COST: $28.00.

National Health/Education Consortium. **Children's nutrition and learning.** ERIC, Clearinghouse on Elementary and Early Childhood Education, Champaign, IL, June 1994.

This digest reviews research on the link between nutrition and learning from the prenatal through school years, and considers the importance of nutrition education for children. AVAILABLE FROM: ERIC, Clearinghouse on Elementary and Early Childhood Education, Univ. of Illinois, 51 Gerty Drive, Champaign, IL 61820-7469.

1993

Burns S; Jarvie J; McMillan L **Nutrition intervention and education for people with HIV disease.** International Conference on AIDS, 9(1): 527, June 6-11, 1993.

Project Open Hand, the world=s largest feeding program for people with HIV disease, recognized the key role that nutrition plays in immune function. In order to ensure optimal nutrition, registered dieticians were hired to evaluate and counsel all clients. Nutrition screens were performed on all clients at intake. Risk levels were

assigned and high risk individuals (e.g., homeless, hotel occupants with no facilities, those far along in the disease progression) Were contacted for a complete assessment. Further intervention, based on assessment findings included: education via written materials; counseling; seminars/workshops; home visits; and alteration of delivered food menus as indicated by physiological tolerance or ethnic preference. As the disease progressed and needs changed, follow-up of body weight and ingestion tolerance was an essential part of the program. Results indicate that clients are better nourished and our program can easily alter clients= diets to help them cope with the changes wrought by the disease. Documentation has indicated that such clients live longer and are better able to tolerate changes in drug regimens dictated by their medical condition. The program is now on-going.

Darnton-Hill I, Sriskandarajah N, Stewart PM, Craig G, Truswell AS. **Vitamin supplementation and nutritional status in homeless men.** Aust J Public Health, 17(3):246-51, September 1993.

Homeless men and women are both physically and socially disadvantaged. Their nutritional status is also often compromised. In this sample of 107 homeless men in Sydney, about half reported taking vitamin supplements (with varying duration and regularity), usually a regimen consisting of thiamin, vitamin C, folic acid and a multivitamin-B-complex capsule. In this cross-sectional study, little effect could be seen on clinical health between those reporting taking vitamin supplementation and those not doing so. However, biochemical measurements showed significant differences. The numbers of men classified as deficient were higher by about 20 per cent for those reporting not taking vitamins. The mean biochemical levels were significantly better for the supplemented group for thiamin, as assessed by TPP per cent effect, vitamin B6, as assessed by P5'P per cent effect, vitamin C and blood folate. Consequently, on the basis of mean biochemical levels of vitamin status, the supplemented group were better off and it is reasonable to presume that in the long term this would be reflected in improved clinical status.

Fierman AH; Dreyer BP; Acker PJ; Legano L. **Status of immunization and iron nutrition in New York City homeless children.** Clin Pediatr (Phila)., 32(3): 151-155, March 1993.

A retrospective review of the hospital records of New York City children aged 6 months through six years showed that 63 homeless children had a higher rate of immunization delay than an age- and sex-stratified sample of 63 domiciled children living at the same federal poverty level. In a logistic regression model, this difference persisted after controlling for sex, age, ethnicity, presence of chronic illness, and reason for referral. In a six-month- to two-year-old subgroup, homeless and domiciled children had equal rates of anemia, but homeless children were more likely to have elevated erythrocyte protoporphyrin (EP) levels consistent with iron deficiency. This difference, too, persisted after controlling for the same confounding factors. Elevated EP levels and immunization delay were likely to coexist in the homeless children. The higher rate of immunization delay is compatible with the occurrence of measles outbreaks in some New York City shelters. The higher rates of iron deficiency may reflect overall poor nutrition. All these findings have significant implications for the design of health-care programs for homeless children.

Rusness BA. **Striving for empowerment through nutrition education.** J Am Diet Assoc, 93(1): 78-79, January 1993.

The development of a nutrition education philosophy that includes empowerment goals and a family approach to intervention holds great potential for dietetic practitioners who work with populations at risk for

malnutrition and hunger as a result of poverty. The components of a substance abuse community health intervention program in New Mexico for empowerment of high risk minority youth evolved from the theoretical foundations of Boss, Freire, and Knowles. The underlying perspective held by the program staff was the realization that homelessness is a high-stress/crisis situation. Nutrition problems were integrated into a reflection on the problems identified by the homeless. Nutrition became connected to the primary concerns of the participants, and the root problems of powerlessness and poverty. Outcomes of healthier choices in life-styles were documented.

Salaspuro M. **Nutrient intake and nutritional status in alcoholics.** Alcohol, 28(1): 85-88, January 1993.

The modern techniques used in making reliable nutritional surveys and in assessing the nutritional status of alcoholic individuals have greatly improved our possibilities to determine the nutrient intake and to detect nutritional deficiencies in alcoholics from different social groups. In earlier studies, the rather high incidence of malnutrition in alcoholics can be related to the patients consisting of indigent, skid row alcoholics or patients with severe somatic complications. Later studies have revealed that nutritional deficiencies are rare among middle-class alcoholics without significant somatic complications. However, selective nutritional deficiencies may be found among lower-income and homeless alcoholic populations.

Taylor ML; Koblinsky SA. **Dietary intake and growth status of young homeless children.** J Am Diet Assoc, 93(4): 464-466, April 1993.

Wiecha JL; Dwyer JT; Jacques PF; Rand WM. **Nutritional and economic advantages for homeless families in shelters providing kitchen facilities and food.** J Am Diet Assoc, 93(7): 777-783, July 1993.

Food habits were examined in homeless families in Boston-area hotels and family shelters. Reported household income, food expenditures, food sources, and attitudes were analyzed for 77 caretakers grouped according to kitchen facilities provided and amount of food provided. Diets were analyzed using a four-week semiquantitative food frequency questionnaire for 71 female respondents grouped by type of residence (hotel or shelter). Median monthly income was $589 and was similar among groups. Mean monthly food expenditures were lower for those who lived in shelters that provided standard kitchen facilities and substantial food support compared with those who lived in hotels without these amenities ($93 vs $244). Compared with others, respondents who lived in hotels reported purchasing food more frequently, were more likely to use food pantries, and had fewer food items on hand. They were less likely to be satisfied with their diets, access to food, and cooking and food storage facilities. Nutrient intakes were frequently below two thirds of the Recommended Dietary Allowance for vitamin B-6 (63% of respondents), calcium (44%), and iron (44%). Vitamin A intakes were lower in hotel residents, as were vitamin B-6, vitamin C, and zinc per 1,000 kcal. We conclude that services provided to homeless families in shelters and hotels may influence food expenditures, food procurement, and women's diets. Nutrition professionals should consider the availability of kitchen facilities and food when counseling homeless families.

1992

Drake MA. **The nutritional status and dietary adequacy of single homeless women and their children in shelters.** Public Health Rep, 107(3): 312-319, May 1992.

Data were collected on the nutrient intake and nutritional status of 96 single mothers and their 192 dependent children who had been displaced from their homes. The objective of the study was to provide information on the dietary adequacy of a newly identified subgroup of homeless persons, single women and their dependent children. Once situated in temporary housing, study participants indicated they believed they were receiving sufficient food. However, a nutrient analysis found that the study subjects in all age groups were consuming less than 50% of the 1989 Recommended Dietary Allowances (RDA) for iron, magnesium, zinc, and folic acid. Adults were consuming less than 50% of the RDA for calcium. The type and amounts of fats consumed were in higher than desirable quantities for a significant number of subjects of all ages. The health risk factors of iron deficiency anemia, obesity, and hypercholesterolemia were prevalent. The findings indicate a need to examine and remedy nutrient intake deficiencies among single women who are heads of household and their dependent children in temporary housing situations. Diet-related conditions found included low nutrient intakes that may affect child growth and development, risk factors associated with chronic disease, and lack of appropriate foods and knowledge of food preparation methods in shelter situations.

LaComb RP; Taylor ML; Noble JM. **Comparative evaluation of four microcomputer nutrient analysis software packages using 24-hour dietary recalls of homeless children.** J Am Diet Assoc, 92(11): 1391-1392, November 1992.

Rosenberg E; Bernabo L. **Hunger: a hospital survey.** Soc Work Health Care, 16(3): 83-95, 1992.

Patients at a New York City municipal hospital were surveyed in 1985 and 1989 to ascertain the extent of hunger and its possible correlates. Twenty-two percent (22%) of the 382 subjects in 1985 and 23% of the 332 subjects in 1989 experienced hunger. Hunger was related significantly to homelessness, social isolation and the physical inability to buy and/or prepare food. Between 1985 and 1989, there was a large increase in the use of institutional resources for food; a decline in reliance on Food Stamps; and an increase in household density. Inpatients were found to be poorer than outpatients, and to rely more heavily upon soup kitchens. Practice, policy and research implications are noted.

Wolgemuth JC; Myers-Williams C; Johnson P; Henseler C. **Wasting malnutrition and inadequate nutrient intakes identified in a multiethnic homeless population.** J Am Diet Assoc, 92(7): 834-839, July 1992.

The few previous studies of nutritional status and dietary intakes of homeless persons are limited by small sample sizes. We collected information from a multiethnic sample of 277 homeless men and women in Miami, FL. Data collected included a brief personal history, anthropometric variables, and a detailed 24-hour dietary recall. An additional 24-hour dietary recall was collected from a subsample of 36 men. Socioeconomic characteristics of our sample were similar to that of other samples of the homeless. Using measurements of the upper arm muscle area, we identified wasting malnutrition in 20% of the men. Dietary intakes (percentage of the Recommended Dietary Allowances [RDAs] +/- standard error of the mean) for energy (82 +/- 2.88%), calcium (63 +/- 3.28%), zinc (56 +/- 2.61%), and vitamin B-6 (68 +/- 3.93%) were significantly below RDA guidelines for all ethnic groups. In addition, thiamin (75 +/- 6.34%) intakes for whites and vitamin A (61 +/- 12.53%) and riboflavin (74 +/- 7.72%) intakes for Hispanics were below RDA guidelines. Compared with men, women consumed significantly less energy, calcium, and zinc.

1991

Ammerman AS; Haines PS; DeVellis RF; Strogatz DS; Keyserling TC; Simpson RJ Jr; Siscovick DS. **A brief dietary assessment to guide cholesterol reduction in low-income individuals: Design and validation.** J Am Diet Assoc, 91(11): 1385-1390, November 1991.

Low-income Americans are at greatest risk for coronary heart disease. Dietary assessment methods are needed to efficiently and effectively guide diet counseling to reduce serum cholesterol in this population. The Dietary Risk Assessment is a brief food frequency questionnaire designed to guide an intervention program for cholesterol reduction. It is easily administered and scored minutes by persons who untrained in nutrition. The assessment is culturally specific for a low-income southern population, identifies positive and problem dietary behaviors, is easily interpreted, and measures potential barriers to dietary change. The assessment was validated against three days of dietary recall data in a sample of 42 low-income individuals recruited from the waiting room of an ambulatory care clinic. A Keys score, measuring the serum-cholesterol-raising potential of the diet, was calculated for each patient from recall data. The Dietary Risk Assessment ranks individuals by level of dietary atherogenic risk adequately to guide a dietary treatment program for low-income patients, an underserved population with a high prevalence of diet-induced elevations in serum cholesterol.

Armstrong JE; Weijohn TT. **Dietary quality and concerns about body weight of low-income pregnant women.** J Am Diet Assoc, 91(10): 1280-1282, October 1991.

Bowering J; Clancy KL; Poppendieck J. **Characteristics of a random sample of emergency food program users in New York: II. Soup kitchens.** Am J Public Health, 81(7): 914-917, July 1991.

A random sample of soup kitchen clients in New York City was studied and specific comparisons made on arious parameters including homelessness. Compared with the general population of low income persons, soup kitchen users were overwhelmingly male, disproportionately African-American, and more likely to live alone. The homeless (41% of the sample) were less likely to receive food stamps or free food, or to use food pantries. Fewer of them received Medicaid or had health insurance. Forty-seven percent had no income in contrast to 29% of the total sample.

Clancy KL; Bowering J; Poppendieck J. **Characteristics of a random sample of emergency food program users in New York: I. Food pantries.** Am J Public Health, 81(7): 911-914, July 1991.

Food pantry users throughout New York State were studied and many demographic differences found between New York City and Upstate New York respondents. Seven percent of households had no income and median income as percent of the poverty level was 59%. Slightly more than 40% were spending over 60% of their incomes on housing. The data from this survey, the first in New York State to employ a random sampling design, demonstrate a sizable gap between household needs and available resources.

Fierman AH; Dreyer BP; Quinn L; Shulman S; Courtlandt CD; Guzzo R. **Growth delay in homeless children.** Pediatrics, 88(5): 918-925, November 1991.

This study compared the growth of homeless children with National Center for Health Statistics (NCHS) standards and with growth of age-matched domiciled children of similar income level. Homeless children (n=167) had lower height percentiles when compared with domiciled children (n=167) and when compared with NCHS standards. The weight-height percentiles of homeless children did not differ from NCHS standards; however, domiciled children had higher weight-heights when compared with the homeless and with NCHS standards. After controlling via regression analysis for the effects of potentially confounding factors that affect growth, it was found that homeless children from larger families and with single mothers accounted for the lower height percentiles observed. After controlling for confounding factors, domiciled children still had increased weight-height percentiles when compared with the homeless group. Duration of homelessness was not associated with decreased height or weight-height among homeless children. Homeless children in this study exhibited a pattern of stunting without wasting which is characteristic of poor children experiencing moderate, chronic nutritional stress. They exhibited a greater degree of nutritional stress than domiciled children at a similar income level and than that reported in other groups of poor children in the United States. Preexisting social factors in the families of homeless children were important in explaining the observed growth abnormalities. Further exploration of the associations between social characteristics of homeless children and their families and the growth of these children is warranted.

Rafferty Y; Shinn M. **The impact of homelessness on children.** Am Psychol, 46(11): 1170-1179, November 1991.

This article critiques community-based research on the effects of homelessness on children. Homeless children confront serious threats to their ability to succeed and their future well-being. Of particular concern are health problems, hunger, poor nutrition, developmental delays, anxiety, depression, behavioral problems, and educational underachievement. Factors that may mediate the observed outcomes include inadequate shelter conditions, instability in residences and shelters, inadequate services, and barriers to accessing services that are available. Public policy initiatives are needed to meet the needs of homeless children.

Stern RG. **Nutrition services for homeless persons [letter; comment]**. J Am Diet Assoc, 91(8):910, Aug 1991.

Strasser JA; Damrosch S; Gaines J. **Nutrition and the homeless person.** J Community Health Nurs, 8(2): 65-73, 1991.

Homeless persons include men, women, and children who are among the poorest of America's poor. A review is provided of the eating patterns of the homeless, their special nutritional problems, and controversial nutritional issues involving them. Also discussed are ways in which community health nurses (CHNs) can (a) help upgrade the nutritional standards of community-based shelters and other facilities which feed the homeless, and (b) provide suggestions to such food providers to improve the social climate during mealtimes.

Wiecha JL; Dwyer JT; Dunn-Strohecker M. **Nutrition and health services needs among the homeless.** Public Health Rep, 106(4): 364-374, July 1991.

This review discusses nutrition and related health problems among homeless Americans, summarizes recent

information, and identifies needs for services and future research. Many homeless persons eat fewer meals per day, lack food more often, and are more likely to have inadequate diets and poorer nutritional status than housed U.S. populations. Yet many homeless people eligible for food stamps do not receive them. While public and private agencies provide nutritious food and meals for homeless persons, availability of the services to homeless persons is limited. Many homeless people lack appropriate health care, and certain nutrition-related health problems are prevalent among them. Compared with housed populations, alcoholism, anemia, and growth problems are more common among homeless persons, and pregnancy rates are higher. The risks vary among homeless persons for malnutrition, nutrition-related health problems, drug and alcohol abuse, and mental illness. For example, among homeless persons, fewer heads of families than single adults are substance abusers, and mental illness varies in prevalence among single men, single women, and parents in homeless families. Homeless persons need improved access to food, nutrition, and health services. More nutrition education needs to be available to them and to service providers. Use of representative samples and validation of self-reported nutrition and health data will help future investigators to clarify the relationships between the characteristics of the homeless and their nutritional status.

Wright JD. **Poverty, homelessness, health, nutrition, and children.** In Kryder-Coe JH, Salamon LM, and Molnar JM (eds), Homeless Children and Youth: A New American Dilemma. New Brunswick, NJ: Transaction, 1991.

The author discusses the effects of homelessness on the health and nutritional status of children and youth, how these effects compare to those of simply being poor, and the likely long-term consequences of these effects on the ability of homeless children to mature normally, and subsequently, to lead productive, independent, adult lives.

1990

Bunston T; Breton M. **The eating patterns and problems of homeless women.** Women Health, 16(1): 43-62, 1990.

While inadequate nutrition has been identified as a factor affecting the health of the homeless, there has been little research to identify the extent to which inadequate nutrition is a problem. The goal of this paper is to document the eating patterns and problems of single homeless women and to locate the determinants of nutritional adequacy in their diets. Our findings are based on a random sample of 84 single homeless women using hostels and drop-in centers. For 85.5% of the women food was provided primarily by hostels and supplemented by the drop-ins. When their daily food intake was compared to the Canada's Food Guide recommendations, the average number of servings in each of the four food groups was below the recommended. The women in our sample indicated that their problems with food consumption were rooted in their poverty and further analysis indicated that the provision of food by social agencies was an important factor in the nutritional adequacy of their diets. Hostels and drop-in centers not only provide shelter, they have also assumed most of the responsibility for feeding the homeless. It is their poverty which burdens these women and structures their eating patterns.

Carillo TE; Gilbride JA; Chan MM. **Soup kitchen meals: an observation and nutrient analysis.** J Am Diet Assoc, 90(7): 989-991, July 1990.

Darnton-Hill I; Truswell AS. **Thiamin status of a sample of homeless clinic attenders in Sydney.** Med J Aust, 152(1):5-9, Jan. 1, 1990.

Thiamin is one of the marginally adequate nutrients in the Australian diet. The incidence and prevalence of Wernicke-Korsakoff syndrome in this country may be the highest in the world. Homeless men could be at risk for low intakes of thiamin in association with irregular high alcohol intakes. A sample of 107 homeless men from two hostels and one clinic for homeless persons in inner Sydney was investigated for nutritional status; their thiamin status is reported here. By means of 24-hour recall methods, their mean dietary thiamin intake--0.76 mg per day--was less than the National Health and Medical Research Council's recommended dietary intake of 1.1 mg per day; at 0.076 mg/MJ it was even less than the minimal requirement of 0.08 mg/MJ. It was much lower than the mean intake of 1.38 mg per day that was found in the 1983 National Dietary Survey of adults and the distribution of thiamin intakes in this study was skewed positively, with the largest intake being in the range of 0-0.1 mg per day. On clinical examination we found a high prevalence of signs that were consistent with thiamin deficiency. Twenty-four per cent of the subjects showed three-or-more of the signs of the Wernicke-Korsakoff syndrome (ophthalmoplegia, nystagmus, ataxia, peripheral neuropathy and global confusion). In assaying for red-cell transketolase levels, this subgroup showed higher thiamin pyrophosphate effects than did the whole sample. Thirty-six per cent of the whole sample showed subnormal thiamin status by the thiamin pyrophosphate effect. Thus, in this sample, homeless men showed a high prevalence of dietary, biochemical and clinical features to indicate subclinical or early clinical thiamin deficiency.

Luder E; Ceysens-Okada E; Koren-Roth A; Martinez-Weber C. **Health and nutrition survey in a group of urban homeless adults.** J Am Diet Assoc, 90(10): 1387-1392, October 1990.

Homeless persons eat foods from municipal and privately run shelters, fast-food restaurants, delicatessens, and garbage bins. Data on the adequacy of the diets and the nutritional status of homeless persons are sparse. Therefore, we surveyed the nutritional adequacy of the dietary intake, the quality of shelter meals, and objective clinical parameters indicative of nutritional status in a heterogeneous group of urban homeless persons. The group comprised mentally ill persons, alcohol and illicit drug users, and temporarily unemployed persons. Although 86 of the 96 subjects (90%) in our survey reported that they obtained enough to eat, a low dietary adequacy score, which was based on the basic four food groups, of 10.7 (norm=16) indicated that the quality of their diets was inadequate. Shelter meals and diet records showed a high level of saturated fat and cholesterol. Serum cholesterol levels above the desirable limit of 5.17 mmol/L (200 mg) were observed in 79 subjects (82%). In addition to a prevalence of hypertension and obesity (observed in 37 subjects [39%], these homeless persons were at high risk for development of or worsening of cardiovascular disease. We conclude that homeless persons who obtain meals at shelters are getting enough to eat. However, the shelter meals should be modified to meet the nutritional needs and dietary prescriptions of the large number of clients who suffer from various health problems

Mayer J. **Hunger and undernutrition in the United States.** J Nutr, 120(8): 919-923, August 1990.

In the United States, where food is plentiful nationwide, detection of populations at risk of hunger and

malnutrition must rely more on social and economic indicators than on physiological indices, important as these are. Large federal programs expanded or created after the 1969 White House Conference on Food, Nutrition, and Health were shown to be successful during the 1970s in reducing hunger and malnutrition as a massive social phenomenon, even though poverty conditions remained the same. Studies that apply our knowledge of nutritional and dietary requirements to construct a Amarket basket@ of inexpensive, commonly used foods that meet the Recommended Dietary Allowances (RDA) and that set estimated minimum incomes as a multiple of the cost of such an "RDA-based market basket" plus the costs of other necessities would identify populations and families at risk and permit better targeting of food programs.

Suitor CW; Gardner JD; Feldstein ML. **Characteristics of diet among a culturally diverse group of low-income pregnant women.** J Am Diet Assoc, 90(4): 543-549, April 1990.

This study reports on diet quality and variety in food selection among a culturally diverse group of 335 low-income pregnant Massachusetts women. The Index for Nutritional Quality (INQ), which is the observed nutrient density divided by the recommended nutrient density, was estimated for seven nutrients from data reported on food frequency questionnaires and diet recalls. Mean INQs for protein and vitamin C were above the recommended level of 1.0, whereas INQ for iron was 0.6 or less. Mean INQ for calcium was 1.2 for whites and between 0.9 and 1.0 for non-whites. When comparisons were made among ethnic groups by site of prenatal care, significant differences in INQ were found for all nutrients except iron and vitamin B-6. WIC participants had higher diet quality for protein, calcium, iron, and vitamin B-6 than did non-participants. Employed women had higher protein and zinc INQs than did unemployed women, and non-smokers had higher iron and vitamin B-6 INQs than did smokers. Variety was not significantly correlated with diet quality but differed among site-specific ethnic groups. We conclude that there is a need for investigation of factors influencing dietary practices that are associated with sites of prenatal care.

Wood DL; Valdez RB; Hayashi T; Shen A. **Health of homeless children and housed, poor children.** Pediatrics, 86(6): 858-866, December 1990.

The health status of homeless children was assessed on multiple dimensions through parental report in a survey conducted with 196 homeless families in 10 shelters in Los Angeles and 194 housed poor families after March 1987 through January 1988. During the month before the survey, the homeless and housed poor children experienced high rates of illness symptoms, disability, and bed days. Homeless and housed poor children were frequently rated by their parents to be in fair or poor health (17% vs 13%. Homeless children, however, were reported to have more behavior problems and school failure (30% vs 18%) than housed poor children. Homeless children also had high rates of other health problems such as developmental delay (9%) and overweight (13%). The diets of homeless children were frequently imbalanced, dependent on food from "fast-food" restaurants, and characterized by repeated periods of deprivation. Family problems were more common among homeless families, especially among single-parent homeless families compared with single-parent housed families (spousal abuse, 68% vs 41%; parental drug and alcohol abuse, 60% vs 39%). It is concluded that homeless children have significant child behavior and developmental problems and disorders of nutrition and growth, which are associated with multiple risk factors in their environment.

1989

Higgins AC; Moxley JE; Pencharz PB; Mikolainis D; Dubois S. **Impact of the Higgins Nutrition**

Intervention Program on birth weight: a within-mother analysis. J Am Diet Assoc, 89(8): 1097-1103, August 1989.

A study was conducted to evaluate the impact of the Higgins Nutrition Intervention Program of individual nutritional assessment and rehabilitation on pregnancy outcome in a group of urban low-income women. Developed as an adjunct to routine prenatal care, the Higgins program utilizes an individualized approach to dietary treatment that combines an assessment of the risk profile for the presenting pregnancy with the application of specific nutritional rehabilitation allowances to compensate for the negative impact of diagnosed risks. This report presents results of analyses evaluating differences in birth outcomes between 552 sibling pairs; each mother had participated in the Higgins program during the pregnancy of the second-born, but not of the first-born, member of her pair. After adjustment for parity and sex, the intervention infants weighed an average of 107 gm more than their matched siblings at birth. The rate of low birth weight was 50% lower among the intervention infants than among their siblings; rates of intra-uterine growth retardation and perinatal mortality were also lower in the intervention group. The high risk of poor pregnancy outcome in this group of urban low-income women was reduced by the Higgins program.

Karp RJ; Scholl TO; Decker E; Ebert E. **Growth of abused children. Contrasted with the non-abused in an urban poor community.** Clin Pediatr (Phila), 28(7): 317-320, July 1989.

While the identification of a growth-retarded or otherwise undernourished child suggests a diagnosis of child abuse or neglect, it is not certain that abused children from poor communities are less well nourished than children living in similar environments. The setting of this study--day care centers in an urban poor city--provided an opportunity to make this comparison with appropriate community-based controls. Measures of height, weight, and weight/height (Body Mass Index (BMI] were compared for 196 children, two to six years of age, 53 of whom were victims of physical abuse. The data was adjusted for age, sex, and ethnicity using logistic regression analysis to determine occurrence of wasting (weight for height less than 5th percentile) and stunting (height for age less than 5th percentile). Significantly more abused children (16.3%) showed wasting as compared to non-abused (0.7%) with abused children 16.6 times more likely to show wasting than non-abused. While 11.6% of abused children showed stunting compared to 5.6% of non-abused, this difference was not significant when the data was adjusted for demographic factors. The BMI (15.02 kg/m2) for abused children was significantly less than that (15.9 kg/m2) for non-abused children. In the present study, significant wasting as seen in acute malnutrition was found among abused children at diagnosis, suggesting that within an urban poor community the growth of children so identified does differ from the growth of children who are not abused.

Luder E; Boey E; Buchalter B; Martinez-Weber C. **Assessment of the nutritional status of urban homeless adults.** Public Health Rep, 104(5): 451-457, September 1989.

Homeless people eat foods at municipal and charity run shelters, fast-food restaurants, delicatessens, and from garbage bins. Data on the adequacy of the diets and the nutritional status of homeless persons are sparse. Therefore, nutritional indicators of 55 urban homeless subjects were assessed, and a high prevalence of risk factors was identified. Although 93% of subjects reported that they obtained enough to eat, a low dietary adequacy score of 10.1 (norm=16) indicated that the quality of the diet was inadequate. Diet records showed a high intake of sodium, saturated fat, and cholesterol. Serum cholesterol levels above the desirable limit of 200 mg per dl were prevalent. Anthropometric measurements were significantly different from percentile distributions of the U.S. population. Triceps skinfold measurement was above the 95th percentile in 25% of

subjects. Upper arm muscle area, which reflects lean body mass, was below the 5th percentile in 23.3% of women and 44% of the men. These decreased levels of lean body mass and increased levels of body fat, together with the elevated serum cholesterol levels and the shortages of essential nutrients in the diet, may place the homeless at risk of developing nutrition-related disorders.

1987

Smith LG. **Teaching treatment of mild, acute diarrhea and secondary dehydration to homeless parents.** Public Health Rep, 102(5): 539-542, September 1987.

Homeless people in America are at risk for numerous health hazards. Diarrhea and consequent dehydration commonly affect homeless infants and children. Dehydration, if not treated, can quickly become a medical emergency. If, however, signs of diarrhea and dehydration are recognized and treated early, medical complications may be avoided. Fortunately, some homeless people now have access to shelter facilities that provide health education and services. Education is a fundamental tool in the prevention of disease. For homeless children sick with diarrhea, an educated parent may mean the difference between life and death. Therefore, an educational program was developed to help homeless parents recognize and treat mild, acute diarrhea and secondary dehydration. Participants were urged to treat mild diarrhea at home with oral rehydration therapy, thus preventing expensive medical treatment and hospitalization. The project was based on a format used in workshops designed for battered women's shelters. The program's philosophy reflects the belief that people possess many answers to problems, but often lack the opportunity or encouragement to make use of their knowledge.

1985

Public Technology, Inc. **Caring for the hungry and homeless: Exemplary programs.** Emergency Food and Shelter National Board, Alexandria, VA. June 1985.

This report summarizes programs operating in January 1985. Included are 51 programs in rural, suburban, and urban areas across the U. S. Descriptions are divided into nutrition programs and shelter programs, with subtopics such as food banks, programs serving prepared meals, and multi-service programs.

1983

Goldsmith RH; Iber FL; Miller PA. **Nutritional status of alcoholics of different socioeconomic class.** J Am Coll Nutr, 2(3): 215-220, 1983.

Most studies concerning the nutritional status of alcoholics have focused on the indigent alcoholic but

programs now increasingly consider the working patient. The role of socioeconomic status in determining nutritional status of the alcoholic is further clarified. One hundred patients from an alcoholic population were studied, 50 with low socioeconomic status and 50 with middle or higher socioeconomic status. The nutritional status of these different socioeconomic groups was compared. The middle-income alcoholic had significantly higher values in weight to height index, the triceps skinfold, the midarm muscle circumference, hematocrit, and epilation force than the lower-income alcoholic group. Hair-pulling tension was compared in both groups as an index of protein malnutrition. There was a highly significant difference in the two groups.

Undated

Vitamins for the Homeless. (Program description)

This innovative program provides homeless persons with high-quality vitamin supplement packets to assure they have at least the minimum essential vitamins and minerals – whether or not they find sufficient food that day. Available to any homeless services agency in the United States. Contact The Healthy Foundation, 343 Lilac Dr., Los Osos, CA 93402. (805) 528-0850 or mmorton@healthyfound.org; Website: www.thehealthyfoundation.org.